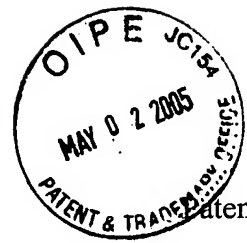


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ATTORNEY DOCKET NO. LKMP:111US
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentee(s): Steven J. SCHMITZ and Terrence W. SCHMIDT

For: **TWO DEGREE OF FREEDOM RUDDER/STABILIZER
FOR WATERBORNE VESSELS**

Patent No.: 6,880,478 B2

Issued: April 19, 2005

Certificate of Mailing by First Class Mail

I certify that this Request for Correction is being deposited on April 28, 2005 with sufficient postage with the U.S. Postal Service as first class mail under 37 C.F.R. §1.8 and is addressed to the Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

C. Paul Maliszewski
Registration No. 51,990

REQUEST FOR CERTIFICATE OF CORRECTION
OFFICE MISTAKE UNDER 37 CFR 1.322

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Honorable Sir:

The above-identified patentees hereby request issuance of a certificate of correction of the subject patent due to a mistake by the U.S. Patent and Trademark Office (35 U.S.C. §254) in printing the patent.

Errors were made by the Office in Claims 4, 21, 23, and 25 of the Letters Patent. Starting on Page 2 of this Request, Applicants have presented the claims as amended in the September 23, 2004 Amendment and Request for Reconsideration. The Office responded to the Amendment with a Notice of Allowance on November 22, 2004. Claims 20, 13, 15, and 17 in the aforementioned Amendment correspond to Claims 4, 21, 23, and 25, respectively, in the Letters Patent and show the correct text for the respective claim in the Letters Patent.

Listing of Claims:

1. A method for integrating steering and motion control in a vessel comprising the steps of:

mounting first and second rudder bodies to a vessel, wherein said first rudder body is located on a first side of a centerline of said vessel and said second rudder body is located on a second side, opposite said first side, of said centerline and said centerline is parallel with a keel of said vessel;

mounting at least one first rudder member to said first rudder body and at least one second rudder member to said second rudder body; and,

rotating said first and second rudder bodies around respective first axis and said at least one first and second rudder members around respective second axis using at least one rotating means, wherein said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

2. The method recited in Claim 1 wherein said respective first axis is substantially parallel to said keel.

3. The method recited in Claim 1 wherein said respective second axis is substantially perpendicular to said respective first axis.

4. A rudder comprising:

a rudder body;

at least one rudder member mounted to said first rudder body; and,

at least one rotating means arranged to rotate said rudder body around a first axis and said at least one rudder member around a second axis, wherein said rudder body and said at least one rudder member are arranged to rotate independently of each other.

5. (cancelled)

6. The rudder recited in Claim 4, wherein said second axis is substantially perpendicular to said first axis.

7. The rudder recited in Claim 4 wherein said at least one rotating means further comprises a linear actuator.

8. The rudder recited in Claim 4 wherein said at least one rotating means further comprises a rotary actuator.

9. The rudder recited in Claim 4 wherein said at least one rotating means further comprises an electrical motor.

10. The rudder recited in Claim 4 wherein said at least one rotating means further comprises a stepper motor.

11. An apparatus for steering and controlling motion in a vessel comprising:

a first rudder body and at least one first rudder member mounted to said first rudder body;
a second rudder body and at least one second rudder member mounted to said second rudder body;

at least one rotating means arranged to rotate said first and second rudder bodies around respective first axis and said at least one first and second rudder members around respective second axis; and,

wherein said first and second rudder bodies are arranged to rotate independently of each other and said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

12. The apparatus recited in Claim 11, wherein said vessel further comprises a first keel and said respective first axis is substantially parallel to said first keel.

13. The apparatus recited in Claim 11, wherein said respective second axis is substantially perpendicular to said respective first axis.

14. The apparatus recited in Claim 11 wherein said at least one rotating means further comprises a linear actuator.

15. The apparatus recited in Claim 11 wherein said at least one rotating means further comprises a rotary actuator.

16. The apparatus recited in Claim 11 wherein said at least one rotating means further comprises an electrical motor.

17. The apparatus recited in Claim 11 wherein said at least one rotating means further comprises a stepper motor.

18. A vessel comprising:

a hull;

first and second rudder bodies mounted to said hull, wherein said first rudder body is located on a first side of a centerline of said vessel and said second rudder body is located on a second side, opposite said first side, of said centerline and said centerline is parallel with a keel of said vessel;

at least one first rudder member mounted to said first rudder body and at least one second rudder member mounted to said second rudder body;

at least one rotating means arranged to rotate said first and second rudder bodies around respective first axis and said at least one first and second rudder member around respective second axis; and,
wherein said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

19. The vessel recited in Claim 44 wherein said first and second appendages are each a crossfoil.

20. The method recited in Claim 1 wherein controlling motion of said vessel further comprises controlling roll and pitch motion of said vessel.

21. The method recited in Claim 1 wherein said vessel further comprises an automatic control system; and,

wherein rotating said first and second rudder bodies and said at least one first and second rudder members are responsive to said automatic control system.

22. The method recited in Claim 1 further comprising:

rotating said first and second rudder bodies independently of each another;

rotating said at least one first rudder member and said first rudder body independently of each other;

rotating said at least one second rudder member and said second rudder body independently of each other; and,

rotating said at least one first and second rudder members independently of each other.

23. The method recited in Claim 22 further comprising:

rotating said first and second rudder bodies in opposite directions.

24. The method recited in Claim 1 wherein said at least one rotating means further comprises a linear actuator.

25. The method recited in Claim 1 wherein said at least one rotating means further comprises a rotary actuator.

26. The method recited in Claim 1 wherein said at least one rotating means further comprises an electrical motor.

27. The method recited in Claim 1 wherein said at least one rotating means further comprises a stepper motor.

28. The rudder recited in Claim 4 wherein said at least one rotating means further comprises a first rotating means arranged to rotate said rudder body and a second rotating means arranged to rotate said at least one rudder member.

29. The apparatus recited in Claim 11 wherein said vessel comprises a second keel and a centerline essentially parallel with said second keel; and, wherein said first rudder body is disposed on a first side of said centerline and said second rudder body is disposed on a second side, opposite said first side, of said centerline.

30. The apparatus recited in Claim 11 wherein said first and second rudder bodies and said at least one first and second rudder members are arranged to be rotated to control roll and pitch motion of said vessel.

31. The apparatus recited in Claim 11 wherein said first rudder body and said at least one first rudder member are arranged to be rotated independently of each other, said second rudder body

and said at least one second rudder member are arranged to be rotated independently of each other, and said at least one first and second rudder members are arranged to be rotated independently of each other.

32. The apparatus recited in Claim 31 wherein said first and second rudder bodies are arranged to rotate in opposite directions.

33. The apparatus recited in Claim 11 wherein said vessel further comprises an automatic control system; and,

wherein said at least one rotating means is responsive to said automatic control system.

34. The vessel recited in Claim 18, wherein said vessel further comprises a keel and said respective first axis is substantially parallel to said keel.

35. The vessel recited in Claim 18, wherein said respective second axis is substantially perpendicular to said respective first axis.

36. The vessel recited in Claim 18 wherein said first and second rudder bodies and said at least one first and second rudder members are arranged to be rotated to control roll and pitch motion of said vessel.

37. The vessel recited in Claim 18 wherein said first and second rudder bodies are arranged to be rotated independently of each other.

38. The apparatus recited in Claim 37 wherein said first rudder body and said at least one first rudder member are arranged to be rotated independently of each other, said second rudder body and said at least one second rudder member are arranged to be rotated independently of each

other, and said at least one first and second rudder members are arranged to be rotated independently of each other.

39. The apparatus recited in Claim 37 wherein said first and second rudder bodies are arranged to rotate in opposite directions.

40. The vessel recited in Claim 18, wherein said at least one rotating means further comprises a linear actuator.

41. The vessel recited in Claim 18, wherein said at least one rotating means further comprises a rotary actuator.

42. The vessel recited in Claim 18, wherein said at least one rotating means further comprises an electrical motor.

43. The vessel recited in Claim 18, wherein said at least one rotating means further comprises a stepper motor.

44. The vessel recited in Claim 18 further comprising first and second appendages fixed to said hull; and,

wherein said first rudder body is mounted to said first appendage and said second rudder body is mounted to said second appendage.

45. The vessel recited in Claim 18 wherein said vessel further comprises an automatic control system; and,

10/622,236
Request for Certificate of Correction
April 28, 2005
Page 9 of 9

wherein said at least one first and second rotating means are responsive to said automatic control system.

CONCLUSION

It is courteously requested that this certificate of correction, shown on the accompanying Form PTO-1050, and occurring as a result of an Office mistake in printing the patent, be granted.

Respectfully submitted,



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Dated: April 28, 2005
CPM/

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,880,478

DATED : April 19, 2005

INVENTOR(S) : Steven J. Schmitz, Sr. and Terrence W. Schmidt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 7, lines 60-62:

4. The method recited in Claim 1 wherein controlling motion of said vessel further comprises controlling roll and pitch motion of said vessel.

Col. 8, lines 63-65:

21. The apparatus recited in Claim 19, wherein said respective second axis is substantially perpendicular to said respective first axis.

Col. 9, lines 1-3:

23. The apparatus recited in Claim 19 wherein said at least one rotating means further comprises a rotary actuator.

Col 9, lines 6-8:

25. The apparatus recited in Claim 19 wherein said at least one rotating means further comprises a stepper motor.

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Williamsville, NY 14221

PATENT NO. 6,880,478

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